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ND Series New DAIPACK



Features

- Optimum compact sizes achieved (tank capacity: 60 L)
- Quiet operation with unobtrusive sound realized by using a V series piston pump.
- The ability to mount 02 size stack valves enables easy integration of control valves (2- to 6-series).

Nomenclature

ND 15 1 - 1 × × - 50

1 2 3 4 5 6

1 Model No.

ND: New DAIPACK

2 Pump capacity

15: V15 used (14.8 cm³/rev)

3 Pressure adjustment range

1: 0.8 to 7.0 MPa {8 to 70 kgf/cm²}

4 Tank capacity

1: 60 L

5 Motor capacity

02: 1.5 kW, 4-pole

03: 2.2 kW, 4-pole

6 Design No.

(The design No. +is subject to change.)

The design number was changed to 50 due to the motor high efficiency restrictions took effect in April 2015.

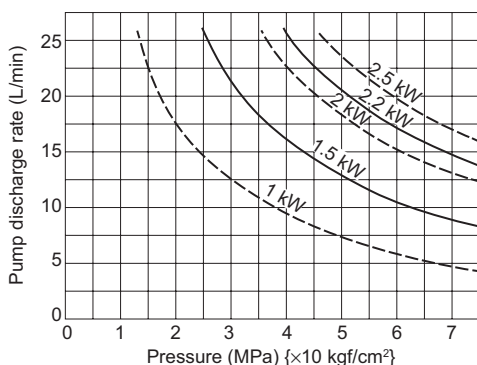
Refer to Page A-8 for details of V series piston pumps incorporated into these units.

Specifications

Model code	Pump capacity cm ³ /rev	Motor capacity Output kW (Number of poles: 4)	Tank capacity L	Maximum operating pressure MPa {kgf/cm ² }	Pressure adjustment range MPa {kgf/cm ² }		Discharge rate L/min *1		Pressure at shipment MPa {kgf/cm ² }	Mass (Fluid excluded) kg
					50 Hz	60 Hz	50 Hz	60 Hz		
ND151-102-50	14.8	1.5	60	7 {70}	0.8 to 7 {8 to 70}		5 to 20	6 to 25	3.5 {35}	110
ND151-103-50		2.2							5.5 {55}	120

Note: *1 The discharge rate is set to the maximum value before shipment

Pump shaft input curves



Paint color

Munsell code 7.5BG4.5/2

Handling

● Hydraulic fluid, ambient environment

- Use a petroleum-based hydraulic fluid equivalent to ISO VG32 to 46. Use of hydraulic fluids other than the petroleum-based type (e.g. hydrous/synthetic) is prohibited.
- Operate the unit in an environment where both the following conditions are satisfied: viscosity range from 15 to 400 mm²/s {cSt} and oil temperature from 0 to 60°C.
- Be sure to maintain the water content in the hydraulic fluid at 0.1% maximum by volume.
- Contamination of the hydraulic fluid causes device trouble and reduces the service life, so pay due attention to controlling contamination and ensure that it goes no higher than NAS contamination class 10.
- Use the unit indoors under the following conditions.
Ambient temperature: 0 to 35°C, Ambient humidity: 20 to 90%RH (with no condensation)

Handling

● At start

- Fill the pump case with hydraulic fluid through the filler port before starting trial operation, after replacing the pump, or after stopping the unit for 6 months or longer. Use the same hydraulic fluid as for the hydraulic circuit.
Pump case filling volume: 500 cm³
- After checking that all hydraulic circuits and electrical circuits are ready for operation, set the hydraulic circuit at the load side in the no-load status or connect an unloading circuit before starting the pump.
- When the pump is driven for the first time, turn the power switch to the motor on and off a few times to let the air out of the piping and then run it continuously at full speed. Noise may be observed until the air has been completely removed but this is not abnormal.
- Check that the pump rotates in the direction of the arrow showing the direction of rotation.

● Electric wiring

- Connect the power cable matching the phases at the pump motor and power supply sides as shown below.



Check the direction of rotation of the motor. If the motor would be rotated in the reverse direction, switch the connection between two phases among the three to correct the direction of rotation.

- Be sure to connect the ground terminal.
- Install a no-fuse breaker and an earth leakage breaker on the main power supply.
The electrical ratings are as shown in the table below.
- These are premium efficiency products and therefore they tend to have a higher current value than products with the previous design. Pay attention to the design of the power distribution when replacing products of the previous design.

<Motor rating table (rated current)>

Permissible voltage fluctuation: ±10%

Model code	Motor capacity Output kW (Number of poles: 4)	Rated current A			Starting current A		
		AC200V (50Hz)	AC200V (60Hz)	AC220V (60Hz)	AC200V (50Hz)	AC200V (60Hz)	AC220V (60Hz)
ND151-102-50	1.5	6.8	6.2	6.0	46.6	41.0	45.1
ND151-103-50	2.2	9.3	8.8	8.3	96.0	81.0	89.1

● Transportation

Use eye bolts for hoisting to transport the unit.

● Installation

The unit is a stationary type. Fix it on a level location that is free of vibration.

How to integrate a control system

In addition to the usage as a hydraulic pump unit, the New DIAPACK can be used in a wide range of applications as a hydraulic unit by its ability to mount 02 size stack valves easily.

First, remove the piping block (part No. 7 in the external dimension diagram) of the New DIAPACK. Remove the return line pipe that is screwed into the bottom face of the piping block.

Next, select a manifold block (BT202 to 602) according to the circuit to be integrated. Screw the pipe removed from the piping block into the return line port on the bottom face of the manifold block and mount the manifold block on the top plate of the oil tank using the threads machined in the top plate of the oil tank for this purpose. Mount 02 size stack valves and 02 size solenoid valves on the manifold block using dedicated mounting bolts.

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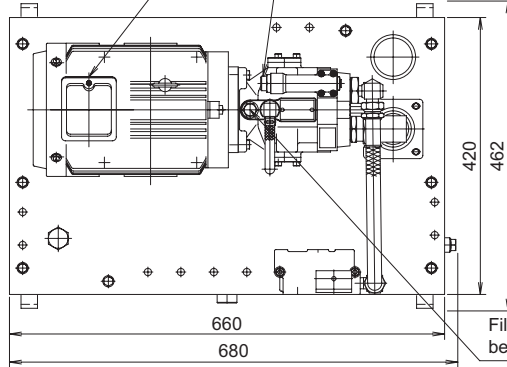
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External dimension diagram

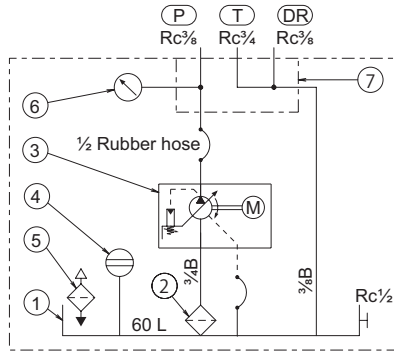
ND151-1※※-50

φ27 Wiring port
Wiring method: Terminal block connection
Size U, V, W: M4 E: M5

Pressure adjusting screw
(Socket for hex key: 6.5)
(Clockwise: pressure rise)
Hexagonal flat lock nut: 27

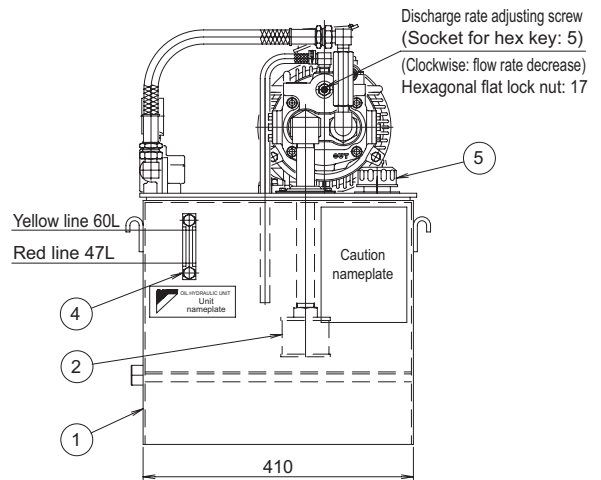
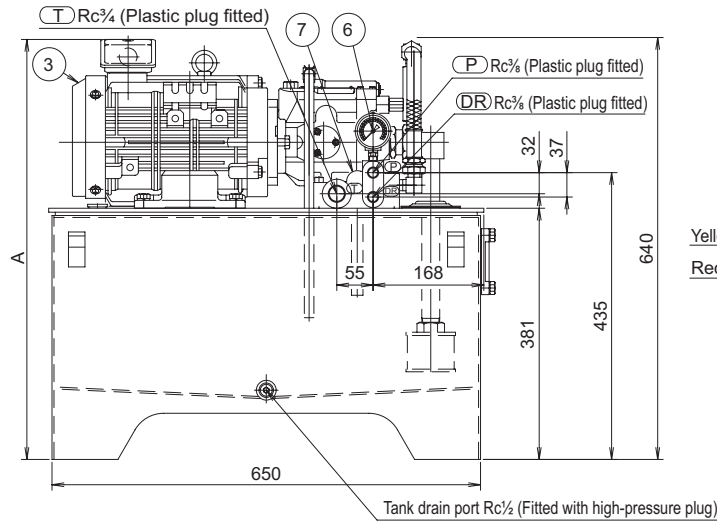


Hydraulic circuit diagram



Part No.	Name
1	Oil tank 60 L
2	Suction strainer
3	Motor pump
4	Oil level gauge
5	Oil filler port with air breather
6	Pressure gauge
7	Piping block

Model	A
ND151-102-50	627
ND151-103-50	637



Example of integration of 02 size stack valves

